Author Index

Abid, S. K., 16–19
Adams, W. W., 14–15, 326–329
Affrossman, S., 315–317, 344–345
Agarwal, P. K., 186–190
Akbulut, U., 36–38, 269–271
Akiyama, S., 236–240
Allain, C., 109–112
Amano, M., 119–120
Angeloni, A. S., 82–85
Aoki, S., 144–146
Aramaki, K., 140–142
Arct, J., 284–286
Arnauts, J, 66–68

Baaj, S., 31–33
Bacle, B., 36–37
Bailly, C., 20–21
Bakhshaee, M., 315–317
Banbaji, J., 55–56
Bansod, V. P., 204–206
Barbarin-Castillo, J-M., 212–215
Barrie, J. A., 331–333
Batchelder, D. N., 276–277
Bauer, B. J., 34–35
Benson, R. S., 289–291
Berghmans, H., 66–68
Birkinshaw, C., 286–288
Briber, R. M., 34–35, 162–166
Broadbent, G., 282–283
Brown, D. S., 282–283
Brown Jr, R. M., 311–314
Btrznick, M., 55–56
Buggy, M., 286–288
Burfield, D. R., 190–192

Cabassi, F., 223–226
Calahorra, M. E., 39–40
Cao, T., 314–315
Chand, N., 146–147
Chanzy, H., 113–115, 133–136
Chen, S-A., 75–78
Chen, S., 208–211, 314, 315
Cheradame, H., 302–305
Chiang, C. K., 34–35
Chiellini, E., 82–85
Chindrella, L., 125–128
Ciferri, A., 22–24
Cifra, P., 180–182
Clarson, S. J., 151–153, 212–215, 249–252
Clemett, C. J., 137–140
Cohen-Addad, J.-P., 121–123, 252–255, 302–305
Cohn, D., 226–228
Conio, G., 22–24
Corradini, P., 100–102
Cortazar, M. 39–40
Cosgrove, T., 64–65
Cowie, J. M. G., 130–132, 298–300, 300–302
Crispin, A. J., 95–96, 246–249
Croxton, C. A., 58–60, 178–180

Daly, S., 286–288
Davis, F. J., 8–11
Davis, G. T., 34–35
Davis, T. P., 218–220
Dawkins, J. V., 282–283
De Rosa, C., 143
Dondos, A., 280–281

Eaves, J. G., 38–40, 339–341
Eby, R. K., 14–15, 326–329
Eguizabal, J. I., 39–40
Eichinger, B. E., 182–184
Elliott, S., 298–300
Eren, S., 36–38

Fabianowski, W., 193–195
Fanconi, B. M., 78–81
Faulques, E., 27–30
Fedtke, M., 154–157
Feio, G., 252–255
Ferguson, R., 130–132, 298–300
Ferraris, J. P., 342–343
Finch, C. A., 322–325
Fujii, M., 309–310
Fujii, T., 318–320

Galiatsatos, V., 182–184
Galiotis, C., 276–277
Galli, G., 82–85
Gandini, A., 302–305
Gardette, J.-L., 329–331
Garnier, F., 103–104
Gatz, R. F. 334–336
Gibson, H. W., 97–99
Gilmer, G. H., 242–246
Gilmer, J. W., 202–204
Gopalan, A., 125–128
Greig, D., 95–96, 246–249
Guerin, P., 11–13
Guerra, G., 100–102, 143
Gupta, M. C., 204–206
Gupta, V. B., 43–45
Guttmann, H., 55–56
Guzman, G. M., 39–40

Hachimori, A., 318–320
Han, C.-C., 261–262
Hara, M., 52–54
Harris, R. K., 137–140
Hartel, E., 154–157
Hasegawa, H., 174–177
Hashemi, S., 322–325
Hashimoto, T., 174–177
Hatano, M., 318–320
Hauptmann, P., 154–157
Hausler, K. G., 154–157
Hayward, D., 315–317, 344–345
Heath, T. G., 64–65
Henrissat, B., 113–115
Hirooka, M., 229–231
Hoogsteen, W., 148–150
Horn, A. F., 172–173
Hosea, T. J. C., 45–47
Hu, S., 208–211
Huglin, M. B., 218–220

Iijima, T., 71–73
Ishigaki, I., 278–280
Italia, S., 223–226
Ito, K., 86–88
Iyoda, S., 86–88

Janeczek, H., 123–125
Jar, P., 52–54
Jiang, H., 14–15
Jin, Y., 208–211, 314–315
Jouan, X., 329–331

Karasz, F. E., 20–21, 180–182, 236–240, 261–262
Karbach, A., 24–27
Karlstrom, G., 263–264
Karthikeyan, G., 125–128
Kashiwa, N., 292–296
Keller, T. M., 334–336, 337–339
Kenwright, A. M., 137–140
Khandelwal, P. K., 48–52
Knurshid, A., 269–271
Kikuchi, K., 40–43
Kinloch, A. J., 322–325
Klesper, E., 62–64
Kloosterboer, J. G., 2–5
Kodaira, K., 86–88
Kolfschoten-Smitsman, G., 167–171
Komiyama, J., 71–73
Kondo, Y., 318–320
Kossmehl, G., 34–36
Kuga, S., 311–314
Kumar, A., 48–52
Kurek, P. R., 97–99

Lancaster, J. E., 116–118
Lane, K., 226–228
Lath, D., 300–302
Laus, M., 82–85
Le Nest, J.-F., 302–305
Leenslag, J. W., 92–94
Lefrant, S., 27–30, 193–195
Lenz, R. W., 261–262
Leung, L., 20–21
Levesque, G., 36–37
Li, Y., 265–268
Lijten, G. F. C. M., 2–5

MacKnight, W. J., 20–21, 180–182, 236–240
Maclachlan, J. W., 326–329
Madey, M., 326–329
Magill, J. H., 107–108
Makuuchi, K., 278–280
Manring, L. E., 68–71
Marchessault, R. H., 113–115
Mark, J. E., 151–153, 249–252
Marom, G., 55–56
Martin, A. C. S., 130–132
Matsuda, T., 196–198
Matsumoto, N., 71–73
Matsuzawa, A., 105–106
Mazur, J., 78–81
McLure, I. A., 212–215
Meischner, C., 154–157
Mercea, P., 31–33
Merrill, E. W., 172–173
Milanesi, V., 82–85
Mitchell, G. R., 8–11
Miwa, T., 318–320
Munro, H. S., 38–40, 221–223, 307–309, 339–341
Murase, I., 229–231

Nakagawa, K., 119–120
Nakai, A., 174–177
Nakajima, S., 309–310
Nakamura, A., 318–320
Nakata, M., 105–106
Nambu, J., 236–240
Ng, S. C., 45–47
Nishihara, H., 140–142
Noguchi, T., 229–231
Northolt, M. G., 276–277
Nose, T., 167–168

O'Gara, J. F., 20–21
Ogoma, Y., 318–320
Ohnishi, T., 229–231
Ohsawa, T., 140–142
Okada, M., 167–168
Organ, S. J., 232–235

Packer, K. J., 137–130
Panzer, H. P., 116–118
Parker, D., 38–40
Patel, R. D., 158–159
Patil, I. D., 204–206
Peacock, A, J., 259–260
Peguy, A., 252–255

Author Index

Abid, S. K., 16–19
Adams, W. W., 14–15, 326–329
Affrossman, S., 315–317, 344–345
Agarwal, P. K., 186–190
Akbulut, U., 36–38, 269–271
Akiyama, S., 236–240
Allain, C., 109–112
Amano, M., 119–120
Angeloni, A. S., 82–85
Aoki, S., 144–146
Aramaki, K., 140–142
Arct, J., 284–286
Arnauts, J, 66–68

Baaj, S., 31–33
Bacle, B., 36–37
Bailly, C., 20–21
Bakhshaee, M., 315–317
Banbaji, J., 55–56
Bansod, V. P., 204–206
Barbarin-Castillo, J-M., 212–215
Barrie, J. A., 331–333
Batchelder, D. N., 276–277
Bauer, B. J., 34–35
Benson, R. S., 289–291
Berghmans, H., 66–68
Birkinshaw, C., 286–288
Briber, R. M., 34–35, 162–166
Broadbent, G., 282–283
Brown, D. S., 282–283
Brown Jr, R. M., 311–314
Btrznick, M., 55–56
Buggy, M., 286–288
Burfield, D. R., 190–192

Cabassi, F., 223–226
Calahorra, M. E., 39–40
Cao, T., 314–315
Chand, N., 146–147
Chanzy, H., 113–115, 133–136
Chen, S-A., 75–78
Chen, S., 208–211, 314, 315
Cheradame, H., 302–305
Chiang, C. K., 34–35
Chiellini, E., 82–85
Chindrella, L., 125–128
Ciferri, A., 22–24
Cifra, P., 180–182
Clarson, S. J., 151–153, 212–215, 249–252
Clemett, C. J., 137–140
Cohen-Addad, J.-P., 121–123, 252–255, 302–305
Cohn, D., 226–228
Conio, G., 22–24
Corradini, P., 100–102
Cortazar, M. 39–40
Cosgrove, T., 64–65
Cowie, J. M. G., 130–132, 298–300, 300–302
Crispin, A. J., 95–96, 246–249
Croxton, C. A., 58–60, 178–180

Daly, S., 286–288
Davis, F. J., 8–11
Davis, G. T., 34–35
Davis, T. P., 218–220
Dawkins, J. V., 282–283
De Rosa, C., 143
Dondos, A., 280–281

Eaves, J. G., 38–40, 339–341
Eby, R. K., 14–15, 326–329
Eguizabal, J. I., 39–40
Eichinger, B. E., 182–184
Elliott, S., 298–300
Eren, S., 36–38

Fabianowski, W., 193–195
Fanconi, B. M., 78–81
Faulques, E., 27–30
Fedtke, M., 154–157
Feio, G., 252–255
Ferguson, R., 130–132, 298–300
Ferraris, J. P., 342–343
Finch, C. A., 322–325
Fujii, M., 309–310
Fujii, T., 318–320

Galiatsatos, V., 182–184
Galiotis, C., 276–277
Galli, G., 82–85
Gandini, A., 302–305
Gardette, J.-L., 329–331
Garnier, F., 103–104
Gatz, R. F. 334–336
Gibson, H. W., 97–99
Gilmer, G. H., 242–246
Gilmer, J. W., 202–204
Gopalan, A., 125–128
Greig, D., 95–96, 246–249
Guerin, P., 11–13
Guerra, G., 100–102, 143
Gupta, M. C., 204–206
Gupta, V. B., 43–45
Guttmann, H., 55–56
Guzman, G. M., 39–40

Hachimori, A., 318–320
Han, C.-C., 261–262
Hara, M., 52–54
Harris, R. K., 137–140
Hartel, E., 154–157
Hasegawa, H., 174–177
Hashemi, S., 322–325
Hashimoto, T., 174–177
Hatano, M., 318–320
Hauptmann, P., 154–157
Hausler, K. G., 154–157
Hayward, D., 315–317, 344–345
Heath, T. G., 64–65
Henrissat, B., 113–115
Hirooka, M., 229–231
Hoogsteen, W., 148–150
Horn, A. F., 172–173
Hosea, T. J. C., 45–47
Hu, S., 208–211
Huglin, M. B., 218–220

Iijima, T., 71–73
Ishigaki, I., 278–280
Italia, S., 223–226
Ito, K., 86–88
Iyoda, S., 86–88

Janeczek, H., 123–125
Jar, P., 52–54
Jiang, H., 14–15
Jin, Y., 208–211, 314–315
Jouan, X., 329–331

Karasz, F. E., 20–21, 180–182, 236–240, 261–262
Karbach, A., 24–27
Karlstrom, G., 263–264
Karthikeyan, G., 125–128
Kashiwa, N., 292–296
Keller, T. M., 334–336, 337–339
Kenwright, A. M., 137–140
Khandelwal, P. K., 48–52
Knurshid, A., 269–271
Kikuchi, K., 40–43
Kinloch, A. J., 322–325
Klesper, E., 62–64
Kloosterboer, J. G., 2–5
Kodaira, K., 86–88
Kolfschoten-Smitsman, G., 167–171
Komiyama, J., 71–73
Kondo, Y., 318–320
Kossmehl, G., 34–36
Kuga, S., 311–314
Kumar, A., 48–52
Kurek, P. R., 97–99

Lancaster, J. E., 116–118
Lane, K., 226–228
Lath, D., 300–302
Laus, M., 82–85
Le Nest, J.-F., 302–305
Leenslag, J. W., 92–94
Lefrant, S., 27–30, 193–195
Lenz, R. W., 261–262
Leung, L., 20–21
Levesque, G., 36–37
Li, Y., 265–268
Lijten, G. F. C. M., 2–5

MacKnight, W. J., 20–21, 180–182, 236–240
Maclachlan, J. W., 326–329
Madey, M., 326–329
Magill, J. H., 107–108
Makuuchi, K., 278–280
Manring, L. E., 68–71
Marchessault, R. H., 113–115
Mark, J. E., 151–153, 249–252
Marom, G., 55–56
Martin, A. C. S., 130–132
Matsuda, T., 196–198
Matsumoto, N., 71–73
Matsuzawa, A., 105–106
Mazur, J., 78–81
McLure, I. A., 212–215
Meischner, C., 154–157
Mercea, P., 31–33
Merrill, E. W., 172–173
Milanesi, V., 82–85
Mitchell, G. R., 8–11
Miwa, T., 318–320
Munro, H. S., 38–40, 221–223, 307–309, 339–341
Murase, I., 229–231

Nakagawa, K., 119–120
Nakai, A., 174–177
Nakajima, S., 309–310
Nakamura, A., 318–320
Nakata, M., 105–106
Nambu, J., 236–240
Ng, S. C., 45–47
Nishihara, H., 140–142
Noguchi, T., 229–231
Northolt, M. G., 276–277
Nose, T., 167–168

O'Gara, J. F., 20–21
Ogoma, Y., 318–320
Ohnishi, T., 229–231
Ohsawa, T., 140–142
Okada, M., 167–168
Organ, S. J., 232–235

Packer, K. J., 137–130
Panzer, H. P., 116–118
Parker, D., 38–40
Patel, R. D., 158–159
Patil, I. D., 204–206
Peacock, A, J., 259–260
Peguy, A., 252–255

Peiffer, D. G., 186–190
Pennings, A. J., 92–94, 148–150
Pethrick, R. A., 315–317, 344–345
Petraccone, V., 143
Porri, L., 223–226
Postema, A. R., 148–150
Pron, A., 27–30, 193–195
Pucciariello, R., 100–102

Ramesh, C., 43–45
Raynor, J. B., 193–195
Reneker, D. H., 78–81
Revol, J.-F., 133–136
Ricci, G., 223–226
Richardson, A., 274–275
Rieck, U., 107–108
Rietsch, F., 256–258
Robinson, I. M., 276–277
Rohatgi, P. K., 146–147
Roncali, J., 103–104
Ryan, K., 64–65

Sadler, D. M., 242–246
Salome, L., 109–112
Sanbe, S., 196–198
Sasaki, N., 196–198
Satoh, M., 71–73, 144–146
Schopov, I., 34–36
Seguela, R., 256–258
Semlyen, J. A., 151–153, 212–215
Sherrington, D. C., 16–19
Shimizu, T., 318–320
Shiwaku, T., 174–177
Siddiqui, J. A., 5–8, 90–92
Silipas, D., 31–33
Simha, R., 298–300
Sjoberg, A., 263–264
Smith, E. G., 137–140
Smith, J. J., 14–15
Smith, P., 60–61, 133–136
Somura, T., 105–106
St. John Manley, R., 133–136
Subbaratnam, N. R., 125–128
Sugimoto, R., 309–310
Sung, P., 162–166
Swinyard, B. T., 331–333

Takeda, S., 140–142
Tan, T-C., 190–192
Tanigami, T., 105–106
Taraiya, A. K., 95–96
Tealdi, A., 22–24
Teoh, S. H., 45–47
Termonia, Y., 60–61
Theivissen, J., 62–64
Tjerneld, F., 263–264
Tober, R. L., 342–343
Toppare, L., 36–38, 269–271
Trezebicka, B., 123–125
Trivedi, H. C., 158–159
Tsutsui, T., 292–296
Turska, E., 123–125
Tuzi, A., 143
Tyagi, O. S., 167–168

Ungar, G., 232–235

van Lent, B., 64–65
v.d. Velden, G., 167–171
van der Zwaag, S., 267–277
Vancso, G., 305–307
Veermans, A., 167–171
Vert, M., 11–13
Villani, V., 100–102
Virag, T., 31–33
Vittoria, V., 199–201

Walsh, D. J., 331–333
Wang, F. W., 73–75
Ward, I. M., 95–96, 274–275
Wartewig, S., 154–157
Weir, N. A., 284–286
Wendorff, J. H., 265–268
Wennerstrom, H., 263–264
Whiting, K., 284–286
Williams, D. J., 20–21
Wold, M., 265–268
Wright, P. V., 5–8, 90–92
Wu, E-S., 73–75
Wu, H-M., 75–78
Wu, W-I., 202–204

Xu, 208–211

Yamasaki, H., 144–146
Yamaura, K., 105–106
Yassar, A., 103–104
Yoshii, F., 278–280
Yoshino, K., 140–142, 144–146, 309–310
Yoshitake, J., 292–296
Young, R. J., 276–277

Zagorska, M., 193–195

Subject Index

Acrylic acid
  Grafting efficiency
    Irradiation, 221–223
Acrylonitrile
  Swelling
    Polystyrene, 204–206
Adsorption
  Swelling
    Poly(n-alkyl merhacrylate)s, 218–220
Ageing
  Polypropylene
    Diffusion, 199–201
Anthracene polymers
  Conduction
    Polymerization, 34–36
2,2′-Azobisisobutyrate
  Thermal stability
    Radical polymerization, 86–88

Binding
  Circular dichroism
    S100 protein, 318–320
Birefringence
  Morphology
    Poly(ethylene terephthalate), 43–45
  Poly(L-lysine hydrobromide)
    Helix-coil transition, 40–43
Blend
  Nuclear magnetic resonance
    *FT*i.r. spectroscopy, 167–171
Blends
  Copolymer
    Ternary system, 300–302
  Elastomers
    Relaxation, 186–190
  Phase separation
    Volume changes, 265–268
  Polycarbonate
    Dynamic mechanical properties, 236–240
Blob theory
  Molecular weight
    Expansion factor, 280–281
Block copolymers
  Lamellar morphology
    Staining, 314–315
  Molecular weight
    Neutron scattering, 202–204
Borate ions
  Poly(vinyl alcohol)
    Isotacticity, 105–106
Brillouin scattering
  Poly(vinyl chloride)
    Glass transition temperature, 45–47
4-Bromostyrene/α-methylstyrene
  Copolymerization
    Ultrasonic vibration, 36–38

^{13}C n.m.r. spectroscopy
  Complexes
    Cellulose fibres, 113–115
Carbon fibre
  Composite
    Polyester, 146–147
Carboxymethylcellulose
  Polyion charge
    Viscosity, 158–159
Catalysis
  Isoprene
    Polymerization, 223–226
  Styrene
    Polymerization, 292–296
  Ziegler–Natta
    Ethylene, 100–102
Cellulose fibres
  ^{13}C n.m.r. spectroscopy
    Complexes, 113–115
  Electron spectroscopy
    Lattice imaging, 311–314
Chain
  Configuration
    Rigid boundary, 58–60
  Negative resists
    Film, 315–317
Chain defect
  Polyethylene
    Longitudinal acoustic mode, 78–81
    Strength, 60–61
Chain folding
  Paraffins
    Deformation, 232–235
Cholesterol
  Synthesis
    Vesicle, 16–19
Circular dichroism
  S100 protein
    Binding, 318–320
  Potentiometry
    Tactic vinyl polymer, 62–64
Coils
  Film
    Monte-Carlo simulation, 180–182
Complexes
  ^{13}C n.m.r. spectroscopy
    Cellulose, 113–115

Conductivity
TCNQ, 90–92
Composite
Carbon fibre
Polyester, 146–147
Crosslinking
Thermal properties, 337–339
Mossbauer spectroscopy
Conductivity, 193–195
PBT
Nylon 66, 326–329
Composite electrolyte
Film
Poly(*p*-phenylene), 140–142
Conduction
Anthracene polymers
Polymerization, 34–36
Processing
Fibre, 309–310
Synthesis
Network, 34–35
Conductivity
Complexes
TCNQ, 90–92
Composite
Mossbauer spectroscopy, 193–195
Doping
Poly(phenylene vinylene), 261–262
Liquid crystal polymers
Specific heat, 246–249
Poly(thienylene vinylene)
Doping, 229–231
Polythiophene film
Electrical properties, 144–146
Thermal properties
Pyrolysis, 334–336
Configuration
Chain
Rigid boundary, 58–60
Conformation
Poly(L-lysine)
Counterion binding, 71–73
Poly(ethylene oxide)
Polystyrene, 64–65
Copolyester
Liquid crystalline polymer
Dynamics, 289–291
Copolymer
Blends
Ternary system, 300–302
Degradation
Radiation stability, 278–280
Elastomers
Poly(ethylene glycol), 226–228
Midelles
X-ray scattering, 282–283
Phase diagrams
Poly(ethylene oxide), 331–333
Copolymerization
4-Bromostyrene/α-methylstyrene
Ultrasonic vibration, 36–38
Electrochemical polymerization
Isoprene-indene copolymer, 269–271
Counterion binding
Conformation
Poly(L-lysine), 71–73
Crosslinking
Composite
Thermal properties, 337–339
Epoxy
Rubber, 322–325
Photoreaction
Ultra-violet radiation, 284–286
Polyethylene
Dicumyl peroxide, 259–260
Crystal growth
Fold lengths
Model, 242–246
Crystallization
Melting
Polypropylene, 143
Cure monitoring
Epoxy resin
Fluorescence, 73–75
Cyclic molecules
Poly(dimethylsiloxane)
Tetramethyl solvent, 212–215
Poly(dimethylsiloxanes)
Network, 151–153
Cyclic polymer
Poly(dimethylsiloxane)
Network, 182–184
Cyclopolymerization
Divinyl monomer
Redox, 125–128

D.s.c.
Poly(vinyl acetate)
Enthalpy relaxation, 298–300
Polyacetylene
*FT*i.r. spectroscopy, 342–343
Deformation
Ethylene copolymer
Drawing, 256–258
Fibre
Raman spectroscopy, 276–277
Paraffins
Chain folding, 232–235
Polyurethane
WAXS, 162–166
Degradation
Copolymer
Radiation stability, 278–280
Polystyrene
Elongational flow, 172–173
Deposition
Film
Silver, 68–71
Diacrylate
Polymerization
Photopolymerization, 2–5
Dicumyl peroxide
Polyethylene
Crosslinking, 259–260
Dielectric relaxation
Poly(vinyl chloride)
Stress relaxation, 196–198
Diffusion
Ageing
Polypropylene, 199–201
Disclination
Liquid crystalline polymer
Dynamics, 174–177
Divinyl monomer
Cyclopolymerization
Redox, 125–128
Doping
Conductivity
Poly(phenylene vinylene), 261–262
Hydrolysis
Polyacetylene, 27–30
Poly(thienylene vinylene)
Conductivity, 229–231
Drawing
Ethylene copolymer
Deformation, 256–258
Thermal conductivity
Polypropylene, 95–96
X-ray diffraction
Orientation, 274–275
Dynamic Zimm plots
Polystyrene
P.c.s., 305–307
Dynamic mechanical properties
Blends
Polycarbonate, 236–240
Dynamics
Liquid crystalline polymer
Copolyester, 289–291
Disclination, 174–177

E.s.c.a.
Polypyrrole
Oxidation, 38–40
Elastomers
Blends
Relaxation, 186–190
Poly(ethylene glycol)
Copolymer, 226–228
Siloxane polymer
Silica, 249–252
Electrical conduction
Latex
Polypyrrole, 103–104
Electrical properties
Conductivity
Polythiophene film, 144–146
Electrochemical polymerization
Isoprene–indene copolymer
Copolymerization, 269–271
Electrolyte
Nuclear magnetic resonance
Ionomer, 302–305
Electron microscopy
Polyethylene
Gels, 133–136
Electron spectroscopy
Lattice imaging
Cellulose fibres, 311–314
X.p.s.
Polyacetylene, 75–78
Enantiomeric purity
Optical rotation
Nuclear magnetic resonance, 11–13
Enthalpy relaxation
Poly(vinyl acetate)
D.s.c., 298–300
Epoxy
Crosslinking
Rubber, 322–325
Ultrasound
Network, 154–157
Epoxy resin
Cure monitoring
Fluorescence, 73–75
Ethylene
Catalysis
Ziegler–Natta, 100–102
Ethylene copolymer
Drawing
Deformation, 256–258
Expansion factor
Molecular weight
Blob theory, 280–281

***FT*i.r. spectroscopy**
D.s.c.
Polyacetylene, 342–343
Film
Heterogeneity, 329–331
Fatigue
Ionomers
Fracture, 52–54
Fibre
Conduction
Processing, 309–310
Hot drawing
Poly(L-lactide), 92–94
Kevlar
Surface roughening, 55–56
Polyethylene
Gels, 148–150
Raman spectroscopy
Deformation, 276–277

Fibre formation
Spinning
Poly(ethylene terephthalate), 22–24
Film
Chain
Negative resists, 315–317
Coils
Monte-Carlo simulation, 180–182
Composite electrolyte
Poly(*p*-phenylene), 140–142
Deposition
Silver, 68–71
*FT*i.r. spectroscopy
Heterogeneity, 329–331
Liquid crystal
Polyester, 208–211
Plasma
Surface interactions, 339–341
Poly(methyl methacrylate)
Poly(vinyl chloride), 344–345
Flash thermolysis
Synthesis
Methacrylic acid ester, 36–37
Fluorescence
Epoxy resin
Cure monitoring, 73–75
Fold lengths
Crystal growth
Model, 242–246
Fracture
Ionomers
Fatigue, 52–54
Functionality
SIMS
Surface interactions, 307–309

Gas permeation
Ultra-violet radiation
Poly(ethylene terephthalate), 31–33
Gelation
Polystyrene
Glass transition temperature, 66–68
Light scattering, 167–168
Gels
Electron microscopy
Polyethylene, 133–136
Polyethylene
Fibre, 148–150
Glass transition temperature
Brillouin scattering
Poly(vinyl chloride), 45–47
Polymer/salt mixture
Ion solvation, 130–132
Polystyrene
Gelation, 66–68
Grafting efficiency
Irradiation
Acrylic acid, 221–223

Helix-coil transition
Birefringence
Poly(L-lysine hydrobromide), 40–43
Heterogeneity
*FT*i.r. spectroscopy
Film, 329–331
High-modulus fibres
Ultrasound
Laser, 14–15
Hot drawing
Fibre
Poly(L-lactide), 92–94
Microwave heating
Poly(vinyl alcohol), 119–120
Hydrogen bonding
Plasticization
Nylon 66, 286–288
Hydrolysis
Polyacetylene
Doping, 27–30

2-Hydroxy-3,3-ionene chloride
Nuclear magnetic resonance
Ionene, 116–118

Intramolecular reaction
Polymerization
Stockmayer relation, 48–52
Ion complexes
Poly(ethylene oxide)
Mesogens, 5–8
Ion solvation
Glass transition temperature
Polymer/salt mixture, 130–132
Ionene
Nuclear magnetic resonance
2-Hydroxy-3,3-ionene chloride, 116–118
Ionomer
Electrolyte
Nuclear magnetic resonance, 302–305
Ionomers
Fatigue
Fracture, 52–54
Irradiation
Grafting efficiency
Acrylic acid, 221–223
Isoprene
Catalysis
Polymerization, 223–226
Isoprene–indene copolymer
Electrochemical polymerization
Copolymerization, 269–271
Isotacticity
Borate ions
Poly(vinyl alcohol), 105–106

Kevlar
Surface roughening
Fibre, 55–56

Lamellar morphology
Block copolymers
Staining, 314–315
Laser
High-modulus fibres
Ultrasound, 14–15
Latex
Electrical conduction
Polypyrrole, 103–104
Lattice imaging
Electron spectroscopy
Cellulose fibres, 311–314
Polyphosphazene
Single crystal, 107–108
Light scattering
Gelation
Polystyrene, 167–168
Liquid crystal
Film
Polyester, 208–211
Liquid crystal elastomers
Molecular switching
Orientation, 8–11
Liquid crystal polymers
Conductivity
Specific heat, 246–249
Liquid crystalline polymer
Disclination
Dynamics, 174–177
Dynamics
Copolyester, 289–291
Poly(β-thioester)
Synthesis, 82–85
Longitudinal acoustic mode
Chain defect
Polyethylene, 78–81
Loops
Solution properties
Terminal attachment, 178–180

Melting
Polypropylene
Crystallization, 143
Mesogens
Ion complexes
Poly(ethylene oxide), 5–8
Methacrylic acid ester
Synthesis
Flash thermolysis, 36–37
Micelles
Copolymer
X-ray scattering, 282–283
Microwave heating
Hot drawing
Poly(vinyl alcohol), 119–120
Model
Crystal growth
Fold lengths, 242–246
Molecular switching
Liquid crystal elastomers
Orientation, 8–11
Molecular weight
Blob theory
Expansion factor, 280–281
Neutron scattering
Block copolymers, 202–204
Monte-Carlo simulation
Coils
Film, 180–182
Morphology
Birefringence
Poly(ethylene terephthalate), 43–45
Plastic deformation
Poly(ether ether ketone), 24–27
Mössbauer spectroscopy
Composite
Conductivity, 193–195

Negative resists
Chain
Film, 315–317
Network
Poly(dimethylsiloxane)
Cyclic polymer, 182–184
Poly(dimethylsiloxanes)
Cyclic molecules, 151–153
Synthesis
Conduction, 34–35
Ultrasound
Epoxy, 154–157
Neutron scattering
Molecular weight
Block copolymers, 202–204
Nuclear magnetic resonance
2-Hydroxy-3,3-ionene chloride
Ionene, 116–118
Blend
*FT*i.r. spectroscopy, 167–171
Electrolyte
Ionomer, 302–305
Optical rotation
Enantiomeric purity, 11–13
Proton relaxation
Styrene–butadiene, 137–140
Nylon 66
Composite
PBT, 326–329
Hydrogen bonding
Plasticization, 286–288

Optical rotation
Nuclear magnetic resonance
Enantiomeric purity, 11–13
Orientation
Drawing
X-ray diffraction, 274–275
Molecular switching
Liquid crystal elastomers, 8–11

Oxidation
E.s.c.a.
Polypyrrole, 38–40

PBT
Composite
Nylon 66, 326–329
P.c.s.
Polystyrene
Dynamic Zimm plots, 305–307
Paraffins
Chain folding
Deformation, 232–235
Phase diagrams
Poly(ethylene oxide)
Copolymer, 331–333
Phase separation
Blends
Volume changes, 265–268
Photopolymerization
Polymerization
Diacrylate, 2–5
Photoreaction
Ultra-violet radiation
Crosslinking, 284–286
Plasma
Surface interactions
Film, 339–341
Plastic deformation
Morphology
Poly(ether ether ketone), 24–27
Plasticization
Hydrogen bonding
Nylon 66, 286–288
Poly(β-thioester)
Liquid crystalline polymer
Synthesis, 82–85
Poly(L-lactide)
Fibre
Hot drawing, 92–94
Poly(L-lysine hydrobromide)
Birefringence
Helix-coil transition, 40–43
Poly(L-lysine)
Conformation
Counterion binding, 71–73
Poly(dimethylsiloxane)
Cyclic molecules
Tetramethyl solvent, 212–215
Network
Cyclic polymer, 182–184
Poly(dimethylsiloxanes)
Cyclic molecules
Network, 151–153
Poly(epichlorohydrin)
Thermal properties
D.s.c., 123–125
Poly(ether ether ketone)
Plastic deformation
Morphology, 24–27
Poly(ethylene glycol)
Elastomers
Copolymer, 226–228
Poly(ethylene glycol)-dextran
Temperature dependence
Compatibility, 263–264
Poly(ethylene oxide)
Conformation
Polystyrene, 64–65
Ion complexes
Mesogens, 5–8
Phase diagrams
Copolymer, 331–333
Poly(ethylene terephthalate)
Fibre formation
Spinning, 22–24
Poly(methyl methacrylate)
Poly(vinyl chloride)
Film, 344–345
Poly(n-alkyl methacrylate)s
Swelling
Adsorption, 218–220
Poly(phenylene vinylene)
Conductivity
Doping, 261–262
Poly(p-phenylene)
Composite electrolyte
Film, 140–142
Poly(thienylene vinylene)
Conductivity
Doping, 229–231
Poly(vinyl acetate)
Enthalpy relaxation
D.s.c., 298–300
Poly(vinyl alcohol)
Borate ions
Isotacticity, 105–106
Hot drawing
Microwave heating, 119–120
Synthesis
Poly(vinyl t-butyl carbonate), 97–99
Poly(vinyl chloride)
Brillouin scattering
Glass transition temperature, 45–47
Poly(methyl methacrylate)
Film, 344–345
Stress relaxation
Dielectric relaxation, 196–198
Poly(vinyl t-butyl carbonate)
Synthesis
Poly(vinyl alcohol), 97–99
Polyacetylene
D.s.c.
*FT*i.r. spectroscopy, 342–343
Hydrolysis
Doping, 27–30
X.p.s.
Electron spectroscopy, 75–78
Polyacrylamide
Rheology
Sol–gel transition, 109–112
Polycarbonate
Blends
Dynamic mechanical properties, 236–240
Polyester
Composite
Carbon fibre, 146–147
Liquid crystal
Film, 208–211
Polyethylene
Chain defect
Longitudinal acoustic mode, 78–81
Strength, 60–61
Crosslinking
Dicumyl peroxide, 259–260
Electron microscopy
Gels, 133–136
Fibre
Gels, 148–150
Thermal properties
Swelling, 252–255
Polyion charge
Carboxymethylcellulose
Viscosity, 158–159
Polyisoprene
Rubber
Storage hardening, 190–192
Polymer/salt mixture
Glass transition temperature
Ion solvation, 130–132
Polymerization
Catalysis
Isoprene, 223–226
Conduction
Anthracene polymers, 34–36
Photopolymerization
Diacrylate, 2–5
Stockmayer relation
Intramolcular reactions, 48–52
Styrene
Catalysis, 292–296
Polyphosphazene
Lattice imaging
Single crystal, 107–108
Polypropylene
Ageing
Diffusion, 199–201
Melting
Crystallization, 143
Thermal conductivity
Drawing, 95–96
Polypyrrole
E.s.c.a.
Oxidation, 38–40
Latex
Electrical conduction, 103–104
Polystyrene
Conformation
Poly(ethylene oxide), 64–65
Degradation
Elongational flow, 172–173
Gelation
Glass transition temperature, 66–68
Light scattering, 167–168
P.c.s.
Dynamic Zimm plots, 305–307
Swelling
Acrylonitrile, 204–206
Polythiophene film
Conductivity
Electrical properties, 144–146
Polyurethane
WAXS
Deformation, 162–166
Potentiometry
Circular dichroism
Tactic vinyl polymer, 62–64
Processing
Conduction
Fibre, 309–310
S100 protein
Circular dichroism
Binding, 318–320
Proton relaxation
Nuclear magnetic resonance
Styrene–butadiene, 137–140
Pyrolysis
Conductivity
Thermal properties, 9157

Radiation stability
Degradation
Copolymer, 279–280
Radical polymerization
Thermal stability
2,2′-Azobisisobutyrate, 86–88
Raman spectroscopy
Fibre
Deformation, 276–277
Redox
Cyclopolymerization
Divinyl monomer, 125–128
Relaxation
Blends
Elastomers, 186–190
Rheology
Polyacrylamide
Sol–gel transition, 109–112
Rigid boundary
Configuration
Chain, 58–60
Rubber
Crosslinking
Epoxy, 322–325
Storage hardening
Polyisoprene, 190–192

SIMS
Surface interactions
Functionality, 307–309
Silica
Elastomers
Siloxane polymer, 249–252
Swelling
Siloxane polymer, 121–123
Siloxane polymer
Elastomers
Silica, 249–252
Swelling
Silica, 121–123
Silver
Deposition
Film, 68–71
Single crystal
Polyphosphazene
Lattice imaging, 107–108
Sodium sulphonate
Small-angle X-ray scattering
Poly(ether ether ketone), 20–21
Sol–gel transition
Polyacrylamide
Rheology, 109–112
Solution properties
Loops
Terminal attachment, 178–180
Specific heat
Liquid crystal polymers
Conductivity, 246–249
Spinning
Fibre formation
Poly(ethylene terephthalate), 22–24
Staining
Block copolymers
Lamellar morphology, 314–315
Stockmayer relation
Polymerization
Intramolecular reaction, 48–52
Storage hardening
Rubber
Polyisoprene, 190–192
Strength
Chain defect
Polyethylene, 60–61
Stress relaxation
Poly(vinyl chloride)
Dielectric relaxation, 196–198
Styrene
Catalysis
Polymerization, 292–296
Styrene–butadiene
Proton relaxation
Nuclear magnetic resonance, 137–140
Surface interactions
Plasma
Film, 339–341
SIMS
Functionality, 307–309
Surface roughening
Kevlar
Fibre, 55–56
Swelling
Poly(n-alkyl methacrylate)s
Adsorption, 218–220
Polyethylene
Thermal properties, 252–255
Polystyrene
Acrylonitrile, 204–206
Siloxane polymer
Silica, 121–123
Synthesis
Flash thermolysis
Methacrylic acid ester, 36–37
Network
Conduction, 34–35
Poly(β-thioester)
Liquid crystalline polymer, 82–85
Poly(vinyl alcohol)
Poly(vinyl t-butyl carbonate), 97–99
Vesicle
Cholesterol, 16–19

TCNQ
Conductivity
Complexes, 90–92
Tactic vinyl polymer
Potentiometry
Circular dichroism, 62–64
Temperature dependence
Poly(ethylene glycol)-dextran
Compability, 263–264
Terminal attachment
Solution properties
Loops, 178–180
Ternary system
Blends
Copolymer, 300–302
Tetramethyl solvent
Poly(dimethylsiloxane)
Cyclic molecules, 212–215
Thermal conductivity
Polypropylene
Drawing, 95–96
Thermal degradation
Polyarylate
Poly(ethylene terephthalate), 39–40
Thermal properties
Composite
Crosslinking, 337–339
Conductivity
Pyrolysis, 334–336
Poly(epichlorohydrin)
D.s.c., 123–125
Polyethylene
Swelling, 252–255
Thermal stability
2,2'-Azobisisobutyrate
Radical polymerization, 86–88

Ultra-violet radiation
Gas permeation
Poly(ethylene terephthalate), 31–33
Photoreaction
Crosslinking, 284–286
Ultrasonic vibration
Copolymerization
4-Bromostyrene/α-methylstyrene, 36–38
Ultrasound
Epoxy
Network, 154–157
High-modulus fibres
Laser, 14–15

Vesicle
Synthesis
Cholesterol, 16–19
Viscosity
Carboxymethylcellulose
Polyion charge, 158–159
Volume changes
Blends
Phase separation, 265–268

WAXS
Polyurethane
Deformation, 162–166

X-ray diffraction
Drawing
Orientation, 274–275
X-ray scattering
Copolymer
Micelles, 282–283
X.p.s.
Polyacetylene
Electron spectroscopy, 75–78

Ziegler–Natta
Catalysis
Ethylene, 100–102